

# ASHWAGANDHA

Commercial Cultivation & Contract Farming

INDIAN GINSENG



CLICK-N-GROW  
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Farmers e-Buddy

## INTRODUCTION

Ashwagandha is an important and ancient medicinal crop, which is used in indigenous medicine, Ayurveda and Unani system. Ashwagandha or Asgandha, whose botanical name is *Withania somnifera*, is a plant of the Solanaceae family, which is called Indian Ginseng, Asgandha, Winter Cherry and its Sanskrit names are Ashwagandha, Varahakarni, Kamrupini. It is an important medicinal crop as well as a cash crop. This plant is found in all parts except cold regions. Mostly the roots and leaves of Ashwagandha are used but its flowers and seeds are also useful. Its fresh roots smell good; hence it is called Ashwagandha. It is an important medicinal crop that generates more income at less expense and earns foreign exchange through export. It is cultivated in other states of the country like Maharashtra, Rajasthan, Gujarat, Andhra Pradesh, Uttar Pradesh, Haryana, Kerala, Jammu Kashmir and Punjab. Ashwagandha has a distinct identity in the market. At present, Ashwagandha is cultivated in about 5000 hectares in the country with a total production of 1600 tonnes per year while its demand is 10000 tonnes per year.

Ashwagandha is very popular in Ayurvedic medicines. Ashwagandha has been used for centuries in the treatment of many diseases. It is named among the important Ayurvedic herbs. The use and presence of Ashwagandha has also been mentioned in Atharvaveda. It is regarded as a miraculous anti-stress herb in the Indian traditional system of medicine. For this reason, Ashwagandha is one of the herbs used for stress-related symptoms and anxiety disorders.

## MEDICINAL USES

Ashwagandha is an important plant used in treatment of many diseases and have innumerable uses. Cholesterol reduction, insomnia, stress reduction, increasing sexual ability, helps in the prevention of diseases like cancer, useful in diabetes, improving immunity, useful in thyroid problems, useful in eye diseases, and arthritis. Also useful in improving memory, making muscles



strong, combating infections, heart disease, controlling weight, skin anti-aging, wound healing, skin inflammation, reduction in cortisol levels, useful for hair problems such as- dandruff, graying of hair, etc.

- Ashwagandha also helps in the prevention of cancer. It has been claimed in many studies that it curbs the growth and production of cancer cells.
- Ashwagandha has also been considered effective in women who have the problem of white discharge.
- Apart from this, it helps in promoting fertility in both women and men. Along with this, it also helps in improving sperm quality.
- Ashwagandha has also been considered beneficial in hypertension. For this Ashwagandha should be consumed regularly. But people who have low blood pressure should not consume Ashwagandha.
- Those who do not get deep sleep should eat kheer made of Ashwagandha. Ashwagandha acts as a natural sleep aid.
- Apart from this, it also helps in removing stomach-related problems. For this, mix ashwagandha, sugar candy and a little dry ginger in equal proportion and take it with warm water.
- If there is a lack of sexual ability in men and they cannot get sexual pleasure, then take Ashwagandha. It not only helps in increasing sexual abilities but also improves the quality of semen.

## FARMING OF ASHWAGANDHA

Owing to medicinal properties of Ashwagandha, its demand has increased on a large scale in the country and abroad. But compared to the speed with which this demand is increasing, the only means of its production and supply was to get it from the forests. Various types of Ayurvedic medicines are made from Ashwagandha. If their cultivation is done commercially then it is very useful and profitable for the farmers. At present, Ashwagandha is cultivated in about 5000 hectares in the country with a total production of 1600 tonnes per year while its demand is 10000 tonnes per year. Cultivation of Ashwagandha is the only solution to bridge this gap.

### Plant description

Ashwagandha is a perennial plant of medium height (40 to 150 cm). Its stem is branched, straight, gray or white. Its root is long and oval. The flowers are small green or yellow in color. Fruit is formed in the flower. Fruit are 6mm wide, round, smooth and red in colour. There are large number of seeds inside the fruits.



### CLIMATE

Ashwagandha can be cultivated from sea level to an altitude of 1500 meters. In sub-tropical areas where there is an annual rainfall of 500 to 800 mm, that place is considered the most suitable place for its cultivation. This crop needs dry weather during plant growth. 15-40 degrees centigrade temperature is the best for ashwagandha cultivation. This crop withstands even the lowest temperature of 10 degrees centigrade. Ashwagandha is planted during the Kharif (summer) season at the onset of rains. For a good crop, the soil should have good moisture and the weather should be dry. If it rains in the Rabi season, there is a qualitative improvement in the crop.

### SUITABILITY OF SOIL

It can be cultivated on all types of soil. Trials conducted at Central Soil Salinity Research Institute, Karnal have shown that it can be cultivated in saline water also. Irrigation with saline water increases alkaloids in it by 2-2.5 times. It should be cultivated in relatively less fertile and unirrigated lands especially where it is not possible or difficult to take other profitable crops. Soil should be well drained. Ashwagandha crop can be grown well in sandy loam or light red soil with good drainage and pH value of 6.5 to 8.5.



## IMPORTANT SPECIES

For good yield and production of Ashwagandha, some species have been developed namely- Jawahar Asgandh- 20, Jawahar Asgandh- 134, WS- 90, WS- 100. Besides this Central Institute of Medicinal and Aroma Research, Lucknow developed species named Pratap and Rakshita for infertile and dry areas.

## MANURES AND FERTILIZERS

Organic manures and fertilizers should be used in the cultivation of Ashwagandha, organic fertilizers such as-

- Vermicompost - provides nutrients for plants,
- Neem cake - kills insects present in the soil,
- Gypsum powder - helps keep the soil loose and friable,
- Trichoderma Fungicide Powder - useful in killing harmful fungi present in the soil. These four fertilizers should be incorporated in the field at the time of land preparation.



## LAND PREPARATION

In the cultivation of Ashwagandha, it is necessary to prepare the land well and make the land well pulverized. Plow the land 1.5 feet deep, incorporate organic manures in soil and make the soil fine/loose by mixing soil and manure.



## NURSERY AND PLANTING

Ashwagandha crop is produced through seeds. Disease free and good quality seeds should be purchased and planted in a well prepared nursery. However, it can also be sown by broadcasting directly in the main field. To achieve good quality, transplanting is done.

A well managed nursery is essential for export quality produce. Generally, nursery beds raised above the ground and should be prepared by mixing compost and sand. 5kg seeds are required for planting one acre of ashwagandha. The nursery should be established 6-7 weeks before planting in the main soil. Before broadcasting the seeds in the nursery, seeds should be mixed with sand in 1:10 ratio. Generally seeds germinate in seven to ten days. About 35 to 40 days old saplings can be planted in the main field.

## TRANSPLANTING

35 to 40 days old healthy plant prepared in the nursery are planted in the main field. The distance between plant to plant should be 4-5 cm and the distance between two rows should be 30 cm. About 50,000 saplings can be planted in one acre.



## WEEDING

Any kind of chemical fertilizer should not be applied in Ashwagandha crop because it is used in manufacturing of medicine. The distance of plants should be corrected 20-25 days after sowing. Weeds should be removed from time to time in the field. Ashwagandha is a root crop, hence, weeding from time to time keeps the roots supplied with air, which has a good effect on the yield. This work should be done for the first time within 21 to 25 days of sowing, and for the second time after 21 to 25 days of first weeding.



## IRRIGATION

Cultivation in irrigated conditions gives good production. Second irrigation should be done after 15-20 days of the first irrigation. After that, if it rains regularly, then there is no need to give water. Later irrigation should be done once a month. If it rains in between, there is no need for irrigation. Excess water or irrigation can damage the crop. Irrigation water with E.C. between 4-12 with brackish water does not affect its yield but the quality increases by 2 to 2.5 times.

## CROP PROTECTION

Root nematode attack, seedling blast and leaf spot are common diseases in Ashwagandha, which reduces in the yield. Therefore, the seeds should be treated with Trichoderma powder and sown. One-month old crop should be sprayed with Neem oil and cow urine at an interval of 7-10 days. To protect the crop from leaf eating insects, neem oil and cow urine should be sprayed 2-3 times.



## HARVESTING, DRYING AND STORAGE

Ashwagandha crop gets ready for harvesting in 150 to 190 days. Harvesting comes approximately between January to March. The crop is ready for harvesting when the leaves and fruits of the plant turn yellow. The whole plant should be uprooted along with the root. The plants should be dug to the proper depth so that no damage is caused to roots. Later, the roots should be separated from the plants, washed with water and allowed to dry in the sun.



## GRADING

Sorting of roots should be done according to their shape in the following way-

**Best or A Category-** Roots 7 cm Long and 1-1.5 cm diameter filled, bright and completely white are considered A grade.

**Good or B category-** 5 cm Long and 1 cm in diameter. The solid, shiny and white root of the diameter is considered to be of the best grade.

**Medium or C category-** 3-4 cm Long, diameter 1 cm. Roots with soft and solid structure come in the medium category.

**Lower or D category-** Apart from the above, the remaining mutilated, thin, small and yellow roots are kept in low or D category.

Fill the roots in jute sacks and store them in a ventilated place. The storage area should be free from termites or other insects. These can be kept in good condition for one year.

## COST OF CULTIVATION- 7 Months

| PARTICULARS                     | WORK  | EXPENSES        |
|---------------------------------|---|-----------------|
| <b>Land Preparation</b>         | Ploughing, levelling,etc.                     | 4,000           |
| <b>Organic fertilizers</b>      | Organic insecticides, growth boosters, etc.   | 5,000           |
| <b>Planting material/ seeds</b> | 5 kg @ Rs.1000/- per kg                       | 5,000           |
| <b>Sowing</b>                   | Sowing of Seed                                | 2,000           |
| <b>Electricity bill</b>         | Irrigation                                    | 2,000           |
| <b>Harvesting</b>               | Uprooting of plants and cutting roots         | 2,000           |
| <b>Other expenses</b>           | Drying and packaging                          | 5,000           |
| <b>Transportation</b>           | Transportation of seed and harvested material | 10,000          |
| <b>Total Expenditure</b>        |   | <b>35,000/-</b> |



## PER ACRE OUTPUT- 7 Months

| PARTICULARS                          | PRODUCTION          | BUY BACK PRICE  | TOTAL INCOME |
|--------------------------------------|---------------------|-----------------|--------------|
| Net Yield (Dry Roots)                | 600 kg              | Rs.150/- per kg | Rs.90,000/-  |
| Seeds Production                     | 50 kg               | Rs.400/- per kg | Rs.20,000/-  |
| Total Output                         | <b>Rs.110,000/-</b> |                 |              |
| <b>Total Expenditure</b>             | <b>Rs.35,000/-</b>  |                 |              |
| <b>Net income/ Profit (7 Months)</b> | <b>Rs.75,000/-</b>  |                 |              |



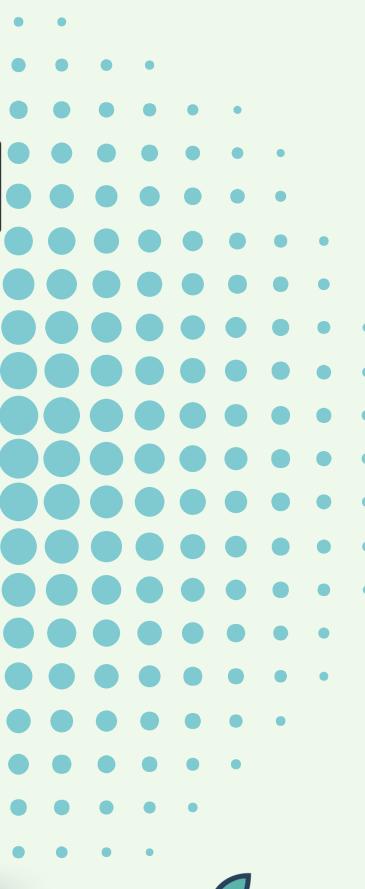
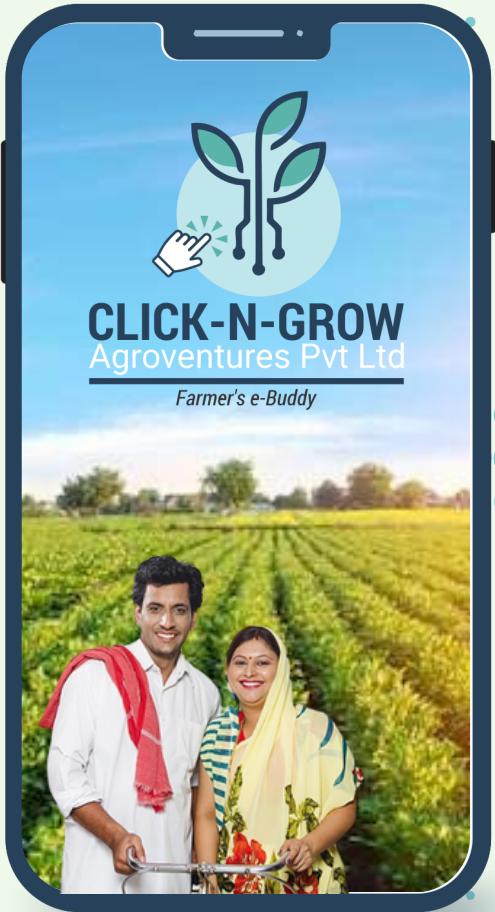
## IMPORTANT NOTE:

1. The per acre cost of cultivation and expected output mentioned in the table above are approximate values derived from our practical experience and supported by data from select top government institutions. These figures are provided purely for reference and understanding. Please note that actual output may vary based on several factors such as season, geographical location, climatic conditions, soil fertility, and crop management practices.
2. We strongly recommend the use of mulching sheets and drip irrigation systems for the cultivation of this crop. These practices help conserve water and reduce weeding costs. While it is possible to achieve good production without using mulching and drip irrigation, the cost of weeding will likely increase considerably. In such cases, farmers may opt for mechanical methods to manage weeds. A standard estimate for weeding cost has already been included in the calculations, but it may vary depending on the season and local conditions.



# CROP CULTIVATION GUIDE

Click-N-Grow Agroventures Pvt. Ltd.



**INTERLINKED FARM SOLUTIONS AT ONE PLACE**

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